AppleWorks Forum

The Monthly Publication of **NAUG:** ***The National AppleWorks Users Group***

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Support for AppleWorks and ///EZ Pieces Users

Problems with Dates in a Data Base

Dear NAUG:

I am having a problem with a data base file with a category called ENTRY DATE. AppleWorks will not select records based on dates in that category. No matter what selection criteria I enter, the program responds with "No records match the selection". I've tried changing the name of the category, but that didn't help. Do you know the source of my problem?

A. J. Weiss
Sarasota, Florida

[Ed: When you enter data that looks like a date into a date category, AppleWorks converts the entry into the familiar date format you see on the screen. AppleWorks also stores dates in a different format in the computer and on the disk. However, if you enter a date into a non-date category or if you create a new data base file from a text file containing dates, AppleWorks stores the entry as text, not as a date.

Unfortunately, AppleWorks does not change the format of the data in a category when you change the category name. If the data is stored as text, AppleWorks does not convert the entries to date format when you put the letters "date" in the category name. Thus, if you entered your dates into a non-date category, you cannot sort the dates chronologically just by changing the category name to include "date". Similarly, AppleWorks does not change date format data into text format when you change a date category to some other name.

AppleWorks decides whether to include the chronological choices on the Apple-A and Apple-R menus based solely on the category name. The program presents the chronological choices for any category name that includes "date" even if the data is not in chronological format. That appears to be the problem with Mr. Weiss' file. The category name is ENTRY DATE but the data is not in date format. AppleWorks presents the chronological arranging and selecting options but the search for chronological data in the category fails.

You can use the following procedure to convert non-chronological data to chronological format:

1. *Change the category name so it includes "date".*
2. *Display the data in multiple record layout with the date category on the screen.*
3. *Put the inserting cursor on the first date. Press the Space Bar and then the Return Key. AppleWorks will now evaluate the entry in that category and change it to date format.*
4. *Repeat step 3 for all records in the file.*

Owners of UltraMacros can create a macro that will automate this process.

Interestingly enough, data stored in date format can be sorted chronologically even if you change the category name so it does not include "date". Although AppleWorks will not present "chronological" as a choice, sorting A-Z or 0-9 will put the records in chronological order.]

Does My Custom Dictionary Work?

Dear Cathleen,

I received the "Speech Pathology" custom dictionary I ordered from NAUG but cannot get it to work properly. AppleWorks 3.0 reads the dictionary when I spell check a document, but doesn't use that dictionary to offer spelling suggestions when I misspell a word. What am I doing wrong?

Ted Anderson
Kimball, Minnesota

[Ed: AppleWorks 3.0 and TimeOut QuickSpell use both the main dictionary and the custom dictionary for the initial spelling check. However, both programs use only the main dictionary for their suggested spellings. Checking the custom dictionary whenever you ask for a spelling suggestion would slow down what is marginally acceptable at its current speed. Unfortunately, I don't know of any workarounds that overcome this limitation.]

More about the HP DeskJet

Dear Cathleen:

I heartily agree with Rich Brossman's conclusion that the HP DeskJet Plus printer is an exceptional value and should be considered by anyone who wants high quality output from AppleWorks. I also agree with his recommendation that users get the Epson emulation cartridge; the $55 retail ($75 list) cost of the cartridge is money well spent.

However, the description of how to print in the DeskJet's "native mode" contained the following errors:

1. The printer code for superscript begin is Escape (s1U.
2. The codes for 6 lpi and 8 lpi are Escape &l6D and Escape &l8D respectively. The "l" is a lower-case "L", not the number "1".
3. Unless you install a font cartridge, the DeskJet can only print at 5, 10, 16.67, and 20 cpi. If you issue a command for a different print size, the DeskJet will print at the next larger size. Thus, a command for 6 cpi will invoke 10 cpi, and so forth. In addition, if you enter these definitions into a custom printer in AppleWorks, AppleWorks will format the document to match the number of characters per inch that you specified. Text printed at 6 and 12 cpi will look especially bad.
4. The fonts built into the DeskJet do not offer italics. You need a font cartridge to produce italic output.
5. The published commands for subscript and superscript produce full height characters. The following commands produce half-height subscripts and superscripts:

Subscript on	Escape (s6v-1U
Subscript off	Escape (s12vØU
Superscript on	Escape (s6v1U
Superscript off	Escape (s12vØU

John Link
Kalamazoo, Michigan

The ***National AppleWorks Users Group*** (NAUG) is an association that supports AppleWorks users. NAUG provides technical support and information about AppleWorks and enhancements to that program. Our primary means of communicating with members is through the monthly newsletter entitled the ***AppleWorks Forum***.

Member Recommends a Service Company

Dear Ms. Merritt:

When my Apple II recently started destroying disks, I took the computer to my local Apple dealer who gave the system a clean bill of health despite an obvious problem. So I shipped the computer to Pre-Owned Electronics who examined the system, tried to repair it, and then replaced the computer with a rebuilt unit. The total cost was $340 and the turn-around time was two weeks. (It would have been faster but they tried to save me money by first repairing my system before giving up and sending me the replacement.)

I was impressed with their service, prices, and treatment and want to recommend their service to my **NAUG** colleagues.

John Kenealy
Modesto, California

[Ed: Pre-Owned Electronics specializes in repairing Apple II equipment and peripherals. The company generally charges an "exchange" price no matter what is wrong with your hardware. You call them, tell them what is wrong, ship them your equipment, and they return similar equipment that is repaired and ready to use. For more information, contact the company and request their brochure. Pre-Owned Electronics, Inc., 30 Clematis Avenue, Waltham, Massachusetts 02154; (800) 274-5343.]

AppleWorks Forum

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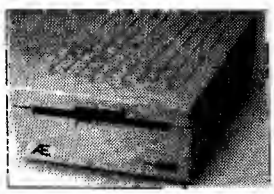

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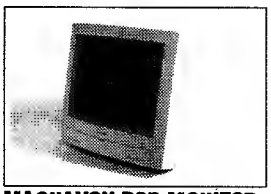

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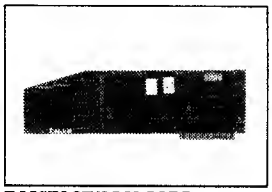

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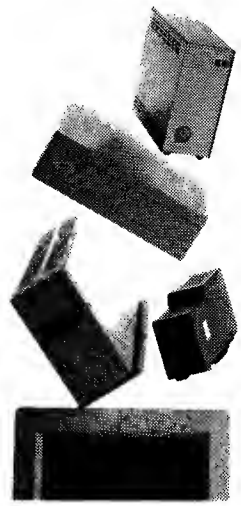

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DoubleData Enhances the AppleWorks Data Base

by Bruce Shanker

It doesn't take long for AppleWorks users to discover that the program's inability to manage more than 30 categories in a data base record is a significant constraint. This limitation makes it difficult to use the program to store health data, financial records, responses to questionnaires, genealogical information, and any other data that requires more than 30 categories per record.

DoubleData is an AppleWorks 3.0 enhancement that overcomes this limit. Once you install Double Data, your working copy of AppleWorks will accommodate up to 60 categories in every data base record.

Installation

DoubleData modifies AppleWorks 3.0's SEG.AW, SEG.DB, SEG.WP, and SEG.SS program files so these modules and the AppleWorks clipboard can manage an expanded set of data base records.

Users with a 3.5-inch disk or a hard disk will find the menu-driven installation process easy. Installing and using DoubleData with a 5.25-inch copy of AppleWorks is still easy but involves some disk swapping. In addition, the patched SEG.DB file is too large to fit on the original 5.25-inch disk; you will have to reorganize the files on your AppleWorks Program Disk. This is particularly important because DoubleData only patches one copy of SEG.AW; you have to copy the patched version of SEG.AW onto all your AppleWorks Program Disks. However, the process is easy and is described clearly in the documentation included as an 11-page AppleWorks word processor file on the DoubleData disk. I believe it will take most users less than five minutes to install and start using DoubleData.

DoubleData does not require additional hardware and runs on any computer that can accommodate AppleWorks 3.0, including 5.25-inch systems with only 128K of RAM.

My tests suggest that DoubleData is compatible with all popular AppleWorks enhancements except Applied Engineering's AW3.0 Expander. DoubleData is compatible with all the TimeOut enhancements and with Outline 3.0 and other AppleWorks enhancement products from JEM Software.

Functionality

DoubleData is as easy to use as it is to install. When you create a data base file with a DoubleData-enhanced copy of AppleWorks, the program automatically allows space for two "pages" of data for every record. Each page can store and display up to 30 categories. The Apple-J command that DoubleData adds to AppleWorks lets you jump between the two pages of data.

Although you can never see more than 30 categories on the screen at any one time, all 60 categories become an integral part of each record. For example, to insert a new record you issue an Apple-I command and enter data for the first 30 categories. Then you issue an Apple-J to jump to the second page of that record and enter data for the next 30 categories.

DoubleData lets you swap categories between pages; this feature is convenient if you ever want to reorganize the data on the two pages available for every record. The process is simple; you issue an Apple-L to change the single record or multiple record layout and then use DoubleData's Apple-M command to swap categories. (Note that DoubleData is easier to use if you have the same number of categories on both pages. I suggest that you use

How DoubleData Works

Storing the Extra Data

When you add entries to a record, AppleWorks stores the data for each category as a continuous stream in a work area starting at memory address $9CØØ. AppleWorks 3.0 put a 1,000 character limit on this area; DoubleData increases the limit to 2,000 characters by changing the two bytes that AppleWorks checks when it tests this limit.

AppleWorks keeps track of what data in the work area is associated with each category by storing the address of the start of the current category of data in another work area at $6FØØ, offset by the category number. Each address requires two bytes, so a total of 60 bytes is required for the addresses of all 30 categories. Fortunately, there was contiguous room for 60 more bytes, which DoubleData uses for the addresses of the data for the 30 new categories.

The record on the desktop is built from the data work area and the table of addresses. The data is stored in category order. If a category is blank, AppleWorks places a special marker in the desktop record indicating the number of consecutive blank categories. Fortunately, the storing and marking scheme supported 30 extra categories without modification. AppleWorks saves these extended records to disk as variable length records, and the program does not know the difference between a 30-category and a 60-category desktop record.

Displaying and Tracking Extra Data

AppleWorks stores the list of categories to display and where to display them in a special header located at $85ØØ. This header contains the width of each column in the multiple record layout, the vertical and horizontal position for each category in the single record layout, the numbers in display order of the categories displayed, the names of the categories, and additional data. When you hide a category, AppleWorks removes its number and length from the display table and moves all the remaining categories to the left. AppleWorks knows when a category is hidden because its number does not appear in the table.

AppleWorks contains a routine that returns the data in a category when you give the routine the category number. For example, when you pass this routine a 10, you get the data in category 10. If you pass it a 40, you get the data for category 40. DoubleData modifies AppleWorks so it has 60 possible categories numbered one through 60; this routine can find the data for all 60 categories.

Unfortunately, the display information for the 30 new categories will not fit in the existing header because the different types of information are butted up next to each other. That is, there are 30 bytes for column lengths, then 30 bytes for single record layout categories, and so forth. So DoubleData uses a second header, located at $92ØØ. This header is identical to the original header at $85ØØ with one exception; the categories it contains are numbered 31 to 60 instead of 1 to 30.

Because DoubleData-enhanced copies of AppleWorks store this display information in two different places, it made sense to display the data on two separate pages rather than combine it into one 60-category screen.

I solved the problem associated with storing the extra header on disk by using an AppleWorks 3.0 feature called "file tags". A file tag is transparent to the user, but lets applications tie new information to files. I stored the second header for DoubleData on disk and linked it to AppleWorks with one of those tags. AppleWorks regards the file and the tag as one physical file. (Since earlier versions of AppleWorks do not support file tags, I could not store the extra header with those versions of the program. That is the main reason I could not develop DoubleData for the earlier versions of AppleWorks.)

How DoubleData Operates

When you load a data base file, DoubleData-enhanced copies of AppleWorks put the standard header in place and load the records containing both the original 30 categories and the extra 30 categories onto the desktop. Finally, the program puts the extra header in place. AppleWorks then displays the opening record based on the original header.

When you press an Apple-J to jump to the hidden page, the original header and the extra header switch places and a routine is called which gathers the new information based on the new header. That updates the screen. AppleWorks doesn't know any differently; it was "fooled" into getting the new category information and data by the new header.

When you want to swap categories between pages, DoubleData provides a list by looking at the categories in the extra header. You pick one, and DoubleData swaps the display category numbers between the headers. For example, category 33 in the extra header may switch places with category 5 from the original header. AppleWorks gets the data based on the new category number.

Conclusion

Although the methods I used seem simple and intuitive, my fellow programmers must realize the many problems I faced as I changed the structure of AppleWorks. For example, the original hidden category scheme and the method AppleWorks used to reorder categories when inserting a new category no longer worked. I also had to modify the clipboard routines. However, I hope that my fellow AppleWorks users can appreciate the extra capacity offered by DoubleData.

—Dan Verkade

an old AppleWorks data base trick and create 60 categories for every record when you use DoubleData.)

The first time you load an existing AppleWorks data base file into a DoubleData-enhanced copy of AppleWorks, DoubleData automatically creates a second page for each record. The new page includes a single category, but no data. To add categories, you issue an Apple-J to jump to the second page and then an Apple-N command. That lets you insert additional categories into the file. Then you press the Escape Key and can insert data into the new categories in every record.

Ease of Use

DoubleData becomes so much a part of AppleWorks that you will generally be unaware of its presence. The process of inserting, deleting, and formatting records all work normally.

You will quickly learn how to manage the minor changes DoubleData makes to some AppleWorks commands. For example, Apple-A and Apple-R work normally when you arrange or search a single category or multiple categories on the same page. However, DoubleData will not let you arrange or search multiple categories from the two pages simultaneously. You must sort or select records based on the data from one page and then repeat the command using data from the second page. Experienced AppleWorks users will be comfortable with this limitation; that is how you did multiple sorts or selects with earlier versions of the program. Alternatively, you can move all the appropriate categories onto one page and then issue the Apple-A or Apple-R command.

DoubleData lets you combine up to 30 categories from every record in any report. You use DoubleData's Apple-M command to move categories between pages until the 30 categories you want to print are in the report. Then you use the standard AppleWorks commands to develop the rest of the report format.

DoubleData expands the AppleWorks clipboard so it can accommodate all 60 categories instead of the usual 30. That lets you use the clipboard to transfer the data from a DoubleData-expanded file into another data base file or a spreadsheet.

Clipboard operation remains easy. For example, to transfer data into a spreadsheet, you arrange the two multiple record layout pages in the data base and then use the Apple-C command to copy the data "To the clipboard". You then switch to the spreadsheet file and copy or move the data "From the clipboard"; all 60 categories will appear in separate columns in the receiving spreadsheet. Moving data from the spreadsheet to the data base and to or from the word processor module is just as easy.

DoubleData-enhanced copies of AppleWorks can import text files that contain up to 60 categories. Text files saved in "tab delimited format" (Tabs between categories, Returns between records) load automatically. To load a text file with Returns between categories, you must specify the number of categories when AppleWorks imports the data. DoubleData-enhanced copies of AppleWorks accept values up to 60 in response to the "Number of categories per record?" prompt. Unenhanced copies of AppleWorks do not accept values greater than 30.

Limitations

It is difficult to imagine that Dan Verkade, the author of DoubleData, could add so much power to a program as complex as AppleWorks through a series of patches. Although DoubleData is easy to use, it certainly was not easy to design and program.

Early versions of DoubleData showed this complexity through their problematical reliability; those versions would occasionally lock up your system. However, these problems appear to be fixed in the newest version of the program which is proving extremely reliable on my system. If you are using earlier versions of DoubleData, I suggest that you update immediately to version 1.5. (NAUG members can update by sending me their original DoubleData disk and $2.50 to cover postage and handling for the update. Bruce Shanker, 1279 Boyd Road, Warminster, Pennsylvania 18974-2260.)

Like all programs, DoubleData has its limitations. For example, DoubleData changes the file structure when it loads a data base file onto the desktop. Unfortunately, you need a DoubleData-enhanced copy of AppleWorks to read the modified file format. This is a significant problem for teachers and business users who have one copy of AppleWorks at home and a second copy of the program at school or at the office. If you use DoubleData at home you will not be able to load your data base files into the computer at work.

To help manage this problem, the DoubleData disk now includes a new TimeOut module called "DoubleData Converter" that converts either page of data into an AppleWorks data base file. However, DoubleData Converter does not let you select categories from the two separate pages when it generates AppleWorks-compatible output. You must first use DoubleData's Apple-M command to reorganize the categories on the two pages and then use DoubleData Converter to generate a conventional AppleWorks file.

Another problem occurs when you use TimeOut ReportWriter, a powerful AppleWorks report generator. Although Dan Verkade wrote both ReportWriter and DoubleData, ReportWriter cannot access the additional 30 categories that DoubleData lets you add to an AppleWorks data base file.

Overall, I consider these limitations minor, given the usefulness and robustness of this valuable AppleWorks enhancement.

Conclusion

DoubleData is a powerful, useful enhancement to the AppleWorks data base module. The program lets you use AppleWorks to manage larger data files and for applications that are otherwise difficult to fit within AppleWorks' 30 category limit.

The newest version of DoubleData is easy to learn, is reliable, and suffers from no significant limitations. At $30, DoubleData is an exceptional value. I give the program my highest recommendation.

[DoubleData costs $30 from JEM Software, Box 1500Q, Arvada, Colorado 80001.]

[Bruce Shanker is a mathematics teacher at Kensington High School in Philadelphia, Pennsylvania. Mr. Shanker is one of NAUG's Beagle Buddies and is licensed by JEM Software to update JEM disks.]

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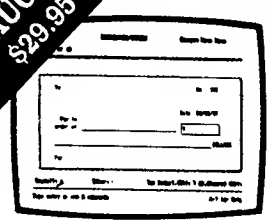
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How to Change the AppleWorks Spreadsheet Defaults

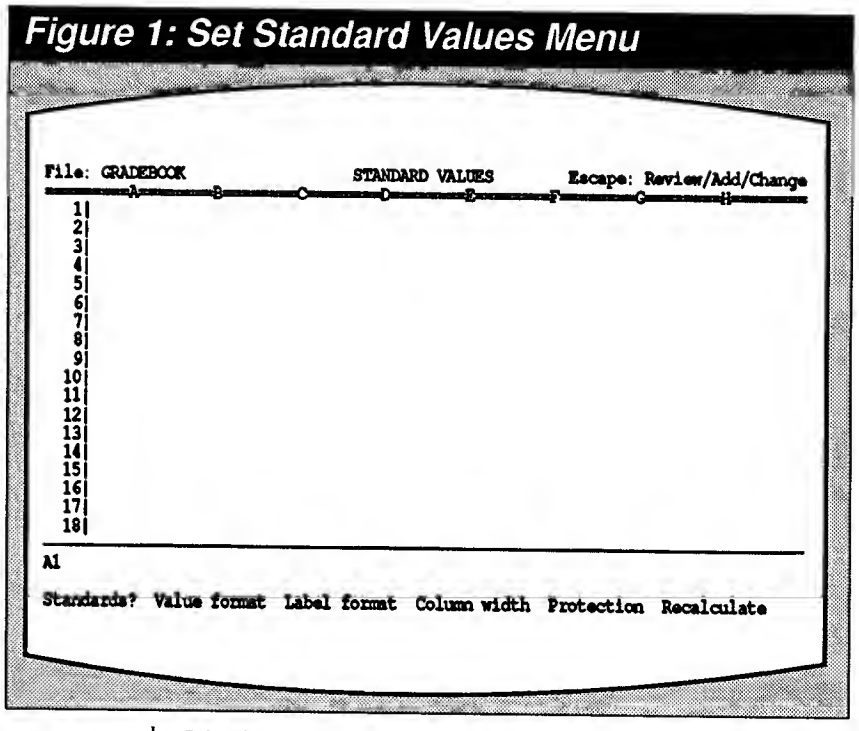
by Warren Williams and Cathleen Merritt

This is the seventh in a series of articles that describe how to use the AppleWorks spreadsheet module. This article describes how to change the default settings built into AppleWorks. The authors assume that you read the previous articles in this series.

Every time you create a new AppleWorks spreadsheet, the program makes some assumptions about the model you want to build. For example, AppleWorks automatically establishes columns that are nine characters wide, left justifies all labels and right justifies all values. Those are some of AppleWorks' "default" settings; the settings the program assumes you want to use.

An earlier article in this series described how to use the Apple-L command to change these settings for any cell or group of cells. However, changes made with Apple-L affect only the cells you specify; the Apple-L command leaves the AppleWorks default values unchanged. Fortunately, AppleWorks offers the Apple-V command (for "Set Standard Values") that lets you change the program's default settings.

Figure 1: Set Standard Values Menu



Exploring Apple-V

If you issue an Apple-V command while in the spreadsheet's Review/Add/Change mode, AppleWorks will display the Standard Values Menu at the bottom of the screen (see *Figure 1*). That menu lets you change the default settings for values, labels, column width, protection, or calculation. You implement most of these changes with the same keystrokes you use with the Apple-L command.

The "values" and "labels" options control the format of all cells that contain values or labels. For example, you can use Apple-V to display all numbers as dollars and cents or as whole numbers. You can also change the default label setting so all labels are automatically centered or right justified within each cell.

To change the default values or labels format, issue an Apple-V, select "Value format" or "Label format", and choose a format from the menu of choices at the bottom of the screen. AppleWorks will change all cells not already formatted with the Apple-L command.

The "column width" option lets you change the width of all the columns in your model. To change the default column width, issue an Apple-V command, select "Column width", and use the Apple Key and Right-Arrow or Left-Arrow Key to widen or narrow all the columns in the spreadsheet. Then press the Escape Key. This is similar to the column width function available through the Apple-L command.

Protection

"Protection" is not as easy to explain as the formatting commands we just described.

You probably know how easy it is to accidentally overwrite an entry in a spreadsheet cell. No matter how long the label or how complex the formula, if you put the cursor in a cell, type a character, and then press the Return Key or an Arrow Key, AppleWorks will replace the original entry with the new character. Virtually every AppleWorks user has experienced the dismay of accidentally replacing a perfectly correct, complex formula with a typographical error.

Fortunately, AppleWorks lets you "protect" your entries. Once you invoke this feature, AppleWorks will warn you when you are about to delete, overwrite, or move an entry in a protected cell.

AppleWorks assumes that you want the protection feature on, but the program makes it easy to toggle protection on or off. You issue an Apple-V command, select "Protection", and then choose "Yes" to turn protection on, or "No" to turn protection off.

Although you use the Apple-V command to turn the protection feature on or off, Apple-V does not actually protect any cells; that is the role of the Apple-L command. To protect cells, you must put the cursor in the cell you want to protect, issue an Apple-L command, and indicate whether you want to protect a single cell ("Entry"), rows, columns, or a block of cells. Then select "Protection" from the Layout Menu and indicate what type of entry you want AppleWorks to accept in those cells. From then on, AppleWorks will only accept the entries you specified and will warn you if you try to delete or move any protected cells. However, if you turn the protection feature off with Apple-V, AppleWorks no longer warns you when you enter data, delete, replace, or move those cells.

Do You Have a Spreadsheet Tip?

Next month's article, entitled "Spreadsheet Format and Design Tips", will help beginners design and format their spreadsheet templates. Please send your ideas and suggestions for that article to Spreadsheet Tips, NAUG, Box 87453, Canton, Michigan 48187.

The protection feature is a valuable tool for anyone who develops spreadsheet models, and we consider our spreadsheets incomplete until we assign the appropriate level of protection to the different cells in the model.

After you develop a template, we suggest that you put the cursor in cell A1, issue an Apple-L command, and protect the entire spreadsheet as a "block" so nothing can be entered in any cell. Then set lower levels of protection for the different areas in the template. For example, if you are developing a gradebook, set protection to permit only labels in the names area and values in the grades area. It takes only a few minutes to protect your work, and once protected, you can be assured that you will not lose the formulas or format of the model. In addition, protection makes it less likely that you will enter incorrect data into a cell. For example, AppleWorks will not let you enter labels in protected "values only" cells.

To summarize, the Apple-V command determines whether the protection feature is on or off. The Apple-L command lets you set the level of protection for different cells in the spreadsheet model.

Order of Calculation

Although AppleWorks appears to update a spreadsheet instantly whenever you change an entry, the program actually calculates only one cell at a time. Unless you change the AppleWorks defaults, the program starts by calculating the value in cell A1 and then proceeds down column A to cell A2, A3,

Figure 2: AppleWorks Operations in Column Mode

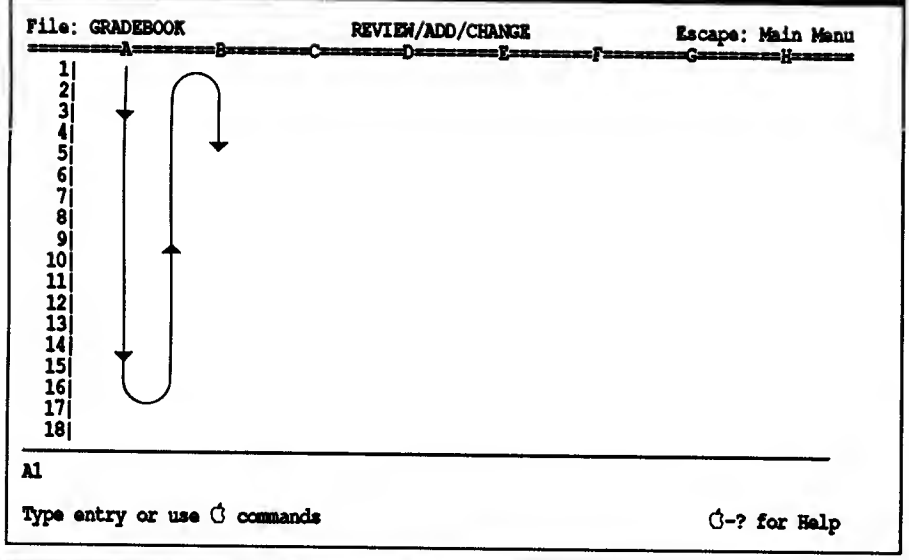
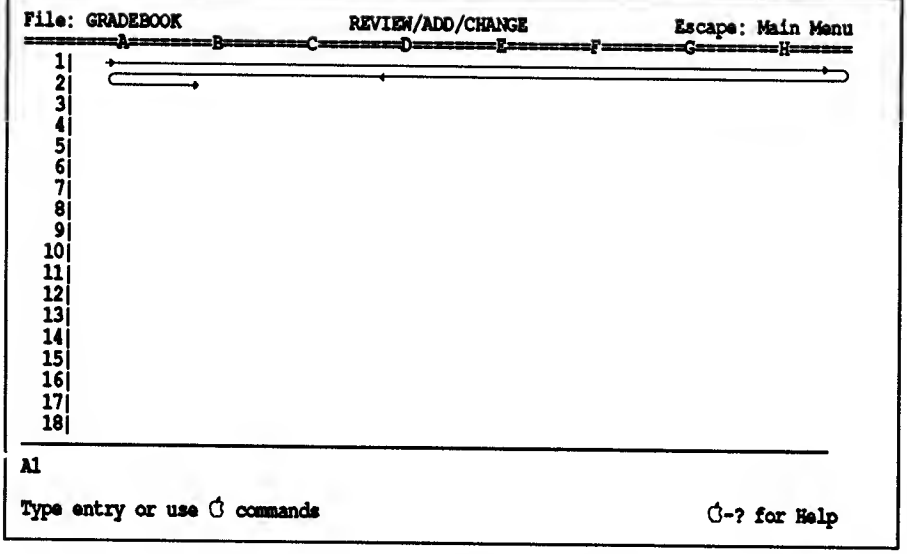


Figure 3: AppleWorks Operations in Row Mode



and so forth until it calculates the values in all cells in column A. Then AppleWorks goes to the top of column B and proceeds down that column. Thus, the default setting for the order of calculation is "columns"; the program calculates one column and then moves to the next column. *Figure 2* depicts the sequence of calculations followed by AppleWorks in its default "column" mode.

The Apple-V command lets you change the order of calculation to "rows". In "row" mode AppleWorks calculates all the cells in row 1 before proceeding to row 2. That is, the program calculates cell A1, then cell B1, C1, D1, and so on until it calculates all the cells in row 1. Then AppleWorks goes to cell A2 and calculates the value in all cells in row 2. *Figure 3* depicts the order of calculation in "row" mode.

In simple spreadsheets it makes little difference whether calculation is set to columns or rows. However, complex models often require control of this variable. For example, consider the gradebook spreadsheet in *Figure 4*. (The gradebook in *Figure 4* is similar to the model we developed in the previous article in this series. However the summary box in *Figure 4* is directly under the block of cells that contain the students' names and grades.)

Cell I23 in this gradebook contains a formula that displays the lowest test average achieved by any student in the class. The test averages appear in cells M8 through M16 in the working area of the spreadsheet model. There is a design problem with this model: If you change a student's test score, the entry in cell I23 will not change. Here is why:

The AppleWorks defaults specify calculation "by column". As described earlier, that means that calculation will proceed from cell A1 down column A, then to the top of column B and down column B.

As AppleWorks calculates the values in *Figure 4* it encounters cell I23. The formula in that cell tells AppleWorks to examine other cells and do the necessary calculations. AppleWorks obeys that request. However, AppleWorks has not yet recalculated the values in cells M8 through M16. As a result, AppleWorks will display an incorrect value in cell I23. Calculation will then proceed down column I and through the rest of the spreadsheet. Eventually, AppleWorks recalculates the value in cells M8 through M16. However, the program will not return to cell I23 to recalculate that entry.

Thus, the spreadsheet results will be incorrect even though you entered the proper formula into the appropriate cells.

There are two ways to overcome this problem. One approach is to issue an Apple-K command. Apple-K tells AppleWorks to manually recalculate the values in the spreadsheet. When you issue an Apple-K, AppleWorks once again performs the calculations in the same cell-by-cell fashion it always uses. When it gets to cell I23, the formula will examine cells M8 through M16. Since AppleWorks updated those cells during the previous calculation, the program will now display the correct value in cell I23. However, using Apple-K is a manual procedure. If you forget to issue the Apple-K command, you can print your spreadsheet with the incorrect value in cell I23.

Figure 4: Sample Gradebook

File: GRADEBOOK REVIEW/ADD/CHANGE Escape: Main Menu

Semester: Winter, 1991
Class: Ethics-I

Last Name	First Name	Tests 1	Tests 2	Tests 3	Homework 1	Homework 2	Homework 3	Homework 4	Average Tests	Average Homewk	Weight Avg.
Adams	John	85	85	80	75	80	80	85	83.3	78.3	81.3
Adams	John Q.	80	85	80	70	70	75	80	81.7	71.7	77.7
Harrison	William	70	75	70	70	80	75	90	71.7	75.0	73.0
Jackson	Andrew	75	70	75	70	75	80	90	73.3	75.0	74.0
Jefferson	Thomas	80	80	90	90	90	95	90	83.3	91.7	86.7
Madison	James	75	80	80	90	80	80	75	78.3	83.3	80.3
Monroe	James	85	85	80	85	85	80	70	83.3	83.3	83.3
Van Buren	Martin	65	70	70	70	65	60	70	68.3	65.0	67.0
Washington	George	90	85	85	80	80	80	85	86.7	80.0	84.0
	Average =	79	79	79	78	78	78	82	78.9	78.1	78.6

```
** Number of Students       =     9 **
** Lowest test average      =  68.3 **
** Highest test average     =  91.7 **
** Lowest homework average  =  65.0 **
** Highest homework average =  65.0 **
** Lowest final average     =  67.0 **
** Highest final average    =  86.7 **
```

Type entry or use ⌘ commands ⌘-? for Help

A better approach is to change the AppleWorks defaults so the program calculates "by rows". Then AppleWorks will calculate the correct value in cells M8 through M16 before it gets to the formula in cell I23. When the program calculates the value in cell I23 it will use the previously calculated, correct value from cells M8 through M16.

You must always consider the order of calculations when you develop a spreadsheet model. An easy way to determine if you need to change the order of calculations is to change some values in the spreadsheet and print the model. Then issue an Apple-K command and print the template again. Compare the results. If any of the calculated values change, you might have to change the order of calculation.

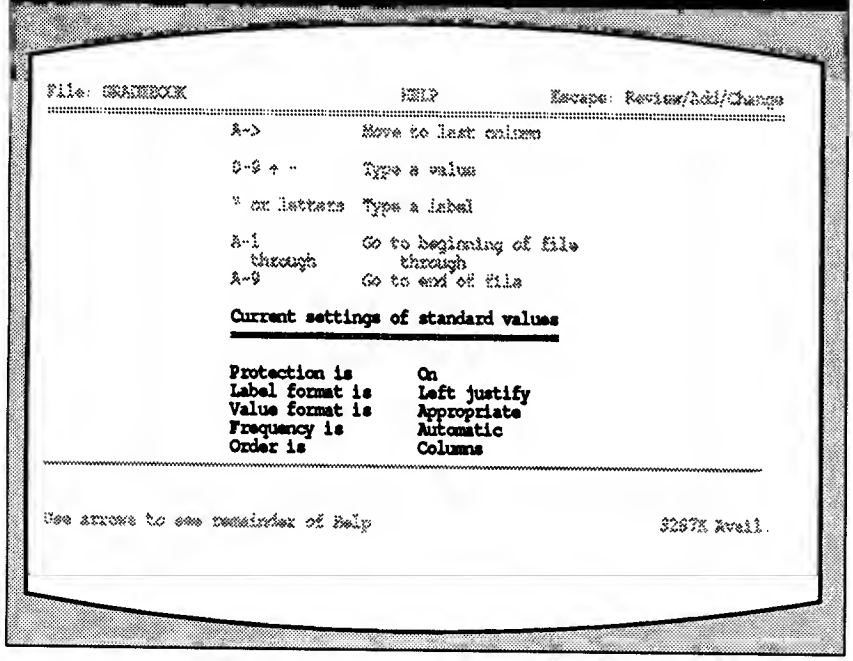
The actual process of changing this default is simple. Issue an Apple-V command, select "Recalculate", followed by "Order", and then "Rows" or "Columns" as you deem appropriate.

Frequency of Calculation

AppleWorks also lets you change the frequency with which the program recalculates the cells in a model. The default setting is "automatic" recalculation. In its automatic mode, AppleWorks executes a recalculation every time you change or enter a value or label in any cell. This is convenient when you work with a small spreadsheet template; you make an entry and AppleWorks recalculates the spreadsheet. However, automatic recalculation can result in long, inconvenient delays when you use a larger spreadsheet because it takes AppleWorks time to recalculate all the cells in a larger model.

If you reflect back to the gradebook template in the earlier articles in this series, you will recall how long it took each time you made a simple change to any cell. It would be much more convenient if you

Figure 5: List of AppleWorks Default Settings



could make all your changes and then tell AppleWorks to execute the recalculation.

Of course, AppleWorks gives you that option. Issue an Apple-V command, select "Recalculate", then "Frequency", and then "Manual". In manual mode, AppleWorks will not recalculate the model until you issue an Apple-K command. With calculation set at "manual" you can enter all the labels, formulas, and values without waiting for the program to recalculate the entire spreadsheet each time you make an entry.

How to See the Default Settings

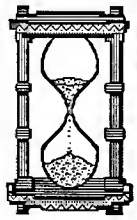
As you manipulate the AppleWorks defaults, you might lose track of the various settings you established for your model. Fortunately, the current AppleWorks default settings appear at the bottom of the Help Screen. To display those settings, issue an Apple-? command and hold down the Down-Arrow Key until the cursor stops scrolling and the computer beeps. Your screen will display the current AppleWorks defaults like the example in *Figure 5*. Press the Escape Key to return to your spreadsheet model.

Conclusion

This month you learned how to use the Apple-V command to change the AppleWorks spreadsheet default settings. The Apple-V and Apple-L commands work together to control the format of the cells and entries in a model. You set the global standards with Apple-V and then use the Apple-L command to over-ride those standards for any cell or group of cells you specify.

*[Dr. Warren Williams is on the faculty at Eastern Michigan University where he teaches courses in the Educational Technology program. He is the President of NAUG and is a frequent contributor to the **AppleWorks Forum**.]*

*[Cathleen Merritt is the Director of NAUG and is the Editor of the **AppleWorks Forum**.]*



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Late News of Interest to AppleWorks Users

Apple Computer/Claris Corporation

Apple Computer recently announced that it will retain Claris Corporation as a wholly owned subsidiary of Apple. Industry insiders believe that this decision will have little immediate impact on the development and distribution of Claris' Apple II products.

Apple also announced that it will discontinue its ImageWriter LQ Rework Program on October 31. The Rework Program provides owners of early ImageWriter LQ printers with a rebuilt unit that is quieter and has better print registration than the earlier models. Owners of ImageWriter LQ printers with serial numbers lower than 183101013 should contact their local Apple dealer and arrange for this free upgrade. You can get the name of your nearest authorized dealer by calling Apple at (800) 538-9696.

A recent issue of Macintosh News reports that Claris Corporation has acquired the rights to a Macintosh version of AppleWorks. The article reports that Claris purchased the rights from the original developers of AppleWorks GS and that the product would incorporate MacWrite II and FileMaker technology in the program's word processor and data base modules. Some industry insiders are speculating that Apple might bundle the Macintosh version of AppleWorks with the new low-cost Macintosh systems set for introduction this fall.

Claris recently released the format of AppleWorks GS word processor files. This 8-page document is useful for anyone trying to recover damaged AppleWorks GS files, developers of AppleWorks GS enhancement programs, and to users hoping to better understand the technical aspects of AppleWorks GS. The AppleWorks GS Word Processor File Formats Technical Notes are available from NAUG. NAUG members: $2.00. Non-members: $5.00. Include a self-addressed, stamped, #10 envelope. Foreign orders: $3.00 additional.

Claris Corporation also announced the availability of a new file translator that lets MacWrite II, the company's Macintosh word processing program, read AppleWorks GS word processor files. Once they install the new "filter", MacWrite II owners can read, but not write, AppleWorks GS files. (Claris advises that you can transfer files from MacWrite II to AppleWorks GS by first saving the files in AppleWorks Classic format, translating the disk into ProDOS with Apple File Exchange, and then reading the file into AppleWorks GS.) The AppleWorks GS translator is available at no cost to registered MacWrite II users; contact Claris Customer Relations at (408) 727-8227.

Central Point Software

Central Point Software is now shipping version 9.1 of Copy II+, a popular ProDOS disk utility program. Version 9.1 is a maintenance release that fixes numerous bugs in version 9.0. Registered owners of version 9.0 can update to 9.1 at no charge by requesting the update from Central Point Software at (503) 690-8090. Owners of earlier versions of Copy II+ should see page 28 of the March 1990 issue of the ***AppleWorks Forum*** for a description of the features of version 9.1 and update information.

Dan Verkade

Dan Verkade is developing a new TimeOut module that will produce printed forms. Tentatively named TimeOut SuperForms, the program lets you use Apple's Double HiRes graphic capability to develop a form on the screen. SuperForms then converts the graphic image into a word processor file with TimeOut SuperFonts commands embedded in the text. You print the form with SuperFonts.

Mr. Verkade expects to release TimeOut SuperForms in the last quarter of 1990; he has not yet determined a price or distributor for the product.

Ingenuity, Inc.

Ingenuity, Inc., formerly Applied Ingenuity, no longer answers the telephone and appears to be out of business. The company manufactured Apple II memory cards, hard disks, and other accessories.

JEM Software

JEM Software recently announced the release of version 1.5 of DoubleData, an AppleWorks enhancement that lets you combine up to 60 categories in an AppleWorks data base (the normal limit is 30 categories). Thus, DoubleData overcomes a major limitation of the AppleWorks data base module. A review of DoubleData appears elsewhere in this issue of the ***AppleWorks Forum***.

NAUG members who own DoubleData can update to version 1.5 from Bruce Shanker, 1279 Boyd Road, Warminster, Pennsylvania 18974. Include your original DoubleData disk and $2.50 for a 5.25-inch disk, or $3.00 for a 3.5-inch disk. Do not add the usual $1 JEM royalty payment; version 1.5 is a maintenance release that fixes bugs in earlier versions of the program and no royalty payment is required for this update.

Dan Verkade and Randy Brandt are working on a new AppleWorks data base enhancement, tentatively named Total Control. Total Control adds data input verification and lookup capabilities to the AppleWorks data base module.

Total Control can present all possible valid entries in a menu format and lets you select from that list of choices. The program also lets you define categories as date, telephone number, social security number, or Zip code format categories and will only accept valid entries in those categories. Total Control's lookup feature lets you design an AppleWorks data base file that automatically enters an item description in one category when you enter valid codes in a second category.

JEM expects to release Total Control in late Fall; price was not available at press time.

JEM Software recently moved. Their new address is Box 1500Q, Arvada, Colorado 80001.

Kingwood Micro Software

Kingwood Micro Software announced the release of Ultimate Fonts, a collection of macros that make it easy to produce foreign language output and special characters with TimeOut SuperFonts. Ultimate Fonts lets you use French, Spanish, German, Swedish, Italian, and Danish characters as well as paragraph marks, cents signs, British pound, Lire, Yen, trademark, copyright signs, bullets, diamonds, apples, and curly quotes in your documents. Requires AppleWorks 3.0, TimeOut UltraMacros 3.1 or later, SuperFonts, and a SuperFonts-compatible printer.

Until December 31, **NAUG** members can purchase Ultimate Fonts directly from the developer for $30.00 plus $2.50 s/h ($6.00 for airmail delivery to Canada or Europe) instead of the regular retail price of $39.95. Order from Kingwood Micro Software, 3013 Lake Stream Drive, Kingwood, Texas 77339; (713) 360-5013. Identify yourself as a **NAUG** member and include your **NAUG** membership number from the mailing label on this issue of the ***AppleWorks Forum***.

Quality Computers

Quality Computers recently released version 3.2a of Gary Morrison's RepairWorks, a program that recovers damaged AppleWorks files. Version 3.2a is a maintenance release that fixes minor data base recovery bugs in version 3.2.

RepairWorks has a suggested list price of $39.95 and is available from **NAUG** for $25.95 (plus $2 s/h). **NAUG** members who own earlier versions of RepairWorks can upgrade to the latest version from any one of **NAUG**'s four Beagle Buddies. (See page 31 of this issue of the ***AppleWorks Forum*** for the names and addresses of our Beagle Buddies.) Include your original RepairWorks disk and $2.50 for a 5.25-inch disk update or $3.00 for a 3.5-inch disk copy of RepairWorks 3.2a. Non-members can update directly from Quality Computers for $10.

[Quality Computers; 20200 Nine Mile Road, St. Clair Shores, Michigan 48080; (800) 443-6697. Technical support: (313) 774-7740.]

Que Corporation

Que Corporation, which claims to be the world's largest publisher of books for microcomputer hardware and software, recently released a new 32-page catalog of publications of interest to computer users. **NAUG** members can get a free copy of the catalog by calling Que at (800) 428-5331 and asking for Debbie Hulse. **NAUG** members can purchase any book in the Que catalog for 35% off the regular retail price; tell Ms. Hulse that you are a **NAUG** member and give her your **NAUG** member number from the mailing label on this issue of the ***AppleWorks Forum***.

Stein Consulting

The Grading Machine is an automated gradebook spreadsheet that calculates and prints students' averages and corresponding letter grades. The program lets you add and delete students and assignments easily, and automatically adjusts to different grading systems. The gradebook shows every student's grade for each type of graded activity (e.g., tests and assignments) and a class summary that includes the number and percentage of students getting each letter grade.

Although the Grading Machine makes extensive use of macros, you do not need UltraMacros or any additional software or hardware to run the program; the disk includes a run-time version of UltraMacros. Comprehensive documentation appears in a three-part, 25-page AppleWorks word processor file on the disk.

The Grading Machine costs $25 plus $2.50 s/h. Site licenses are available. The program requires AppleWorks 2.0 or later and is compatible with, but does not require, TimeOut UltraMacros. *[Stein Consulting, 915 E. Burr Oak Drive, Arlington Heights, Illinois 60004; (708) 398-8544.]*

Sunburst Communications

Sunburst Communications is a developer of high quality educational programs that run on Apple II computers. The company recently released the newest edition of its Curriculum Planner, a 400+ page guide that includes lesson plans and sample activities you can use to integrate computers into your classroom. The guide presents a description of each program, recommended grade levels for the program, the time required to run the software, and a full-page sample lesson plan describing an instructional activity that uses the program. The company grants teachers permission to make copies of the lessons for use in their classes. Sunburst will supply one copy of the Curriculum Planner free to any school requesting one. Write on your school letterhead for your free copy. *[Sunburst Communications, 101 Castelton Street, Pleasantville, New York 10570; (800) 628-8897.]*

T+M Enterprises

Fantasy Baseball (also called Rotisserie Baseball) is a game played by a group of "owners" who put together imaginary baseball clubs from the current crop of major league players. The team owners conduct a "draft" and then keep track of the performance of their players. The pennant goes to the team with the strongest combination of hitting and pitching, including home runs, stolen bases, and earned run averages.

NAUG member Thomas Siblo developed SportWorks Fantasy Baseball, a collection of four AppleWorks word processor files, seven data base templates, and two spreadsheet templates, that help you start and maintain a fantasy baseball league. The word processor files include directions to help you form the league, describe the basic operation of AppleWorks, and explain how to use the templates on the disk. The data base and spreadsheet templates help you manage all the data.

SportWorks Fantasy Baseball, which requires AppleWorks 2.0 or later, costs $39.99 (plus $1.95 s/h). New York residents should add the appropriate sales tax. *[T+M Enterprises, Box 195, Staten Island, New York 10307.]*

TestMaker

Richard Spitzer recently announced the release of an AppleWorks 3.0-compatible version of TestMaker, a program that helps you produce tests, vocabulary lists, and glossaries with AppleWorks. TestMaker uses macros to make it easy to prepare and manage collections of fill-in, matching, multiple choice,

true-false, and vocabulary items. The program includes a run-time version of UltraMacros for users who do not own that popular AppleWorks enhancement. Requires AppleWorks 3.0. TestMaker costs $24.95 plus $2 s/h. *[Richard Spitzer, 912 Kingsley Drive, Colorado Springs, Colorado 80909.]*

WestCode Software

Apple IIe and IIGS users with Vitesse Quickie Scanners will soon be able to read printed documents directly into AppleWorks. Lawyers can use this technology to scan legal documents; teachers can avoid typing tests and other materials from ditto masters or teachers' manuals. This capability will be made possible by InWords, a new program being developed by Alan Bird.

InWords adds optical character recognition (OCR) capability to the Quickie Scanner. You scan a printed document with the Quickie and use InWords to capture the graphic image in memory and convert the characters in that image into a text or AppleWorks word processor file. According to the developers, you can scan approximately 3,000 characters per minute with this system.

InWords automatically recognizes most popular fonts. You can also "teach" InWords characters it does not recognize. (InWords displays characters it cannot recognize on the screen and you enter that character from the keyboard. InWords will then recognize all future instances of that character.)

The initial release of InWords will create AppleWorks word processor files and text files that you can import into the AppleWorks data base module and into AppleWorks GS. The developer expects future versions of the program to support AppleWorks data base, spreadsheet, and AppleWorks GS word processor file formats. WestCode also expects to release drivers that make InWords compatible with other scanners.

InWords, which will list for $129, will be marketed by WestCode, a company formed by TimeOut developers Rob Renstrom and John Oberrick. Initial release is expected this Fall and will be announced in the ***AppleWorks Forum.*** *[WestCode Software, 11835 Carmel Mountain Road, Suite 1304-311, San Diego, California 92128; (619) 679-9200.]*

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AE Ramworks III w/256K	129	1 MEG RAM (8pc/120ns)	75
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AE Transwarp 3.6Mhz	99	AMR 3.5" Drive	194
Disk Drive 5.25"	119	GS Cooling Fan (Int)	24
AE 3.5" Drive w/cont	248	AE VULCAN H.D.	Call
Super Fan II	27		

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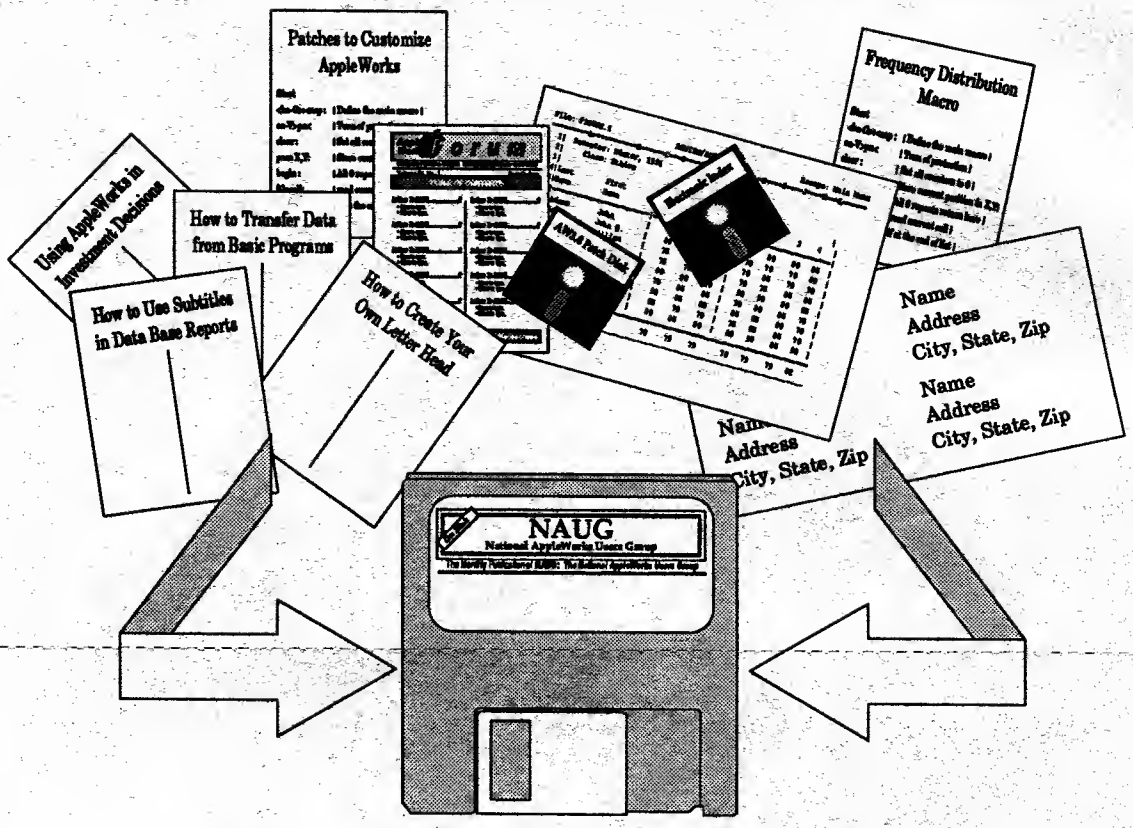

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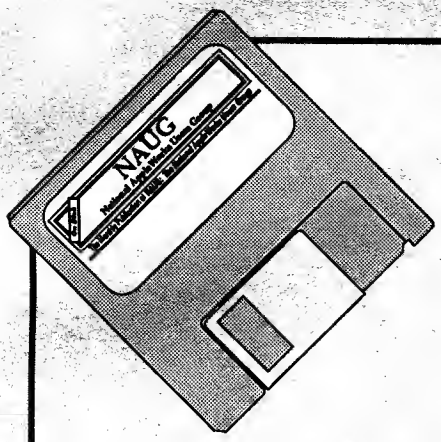

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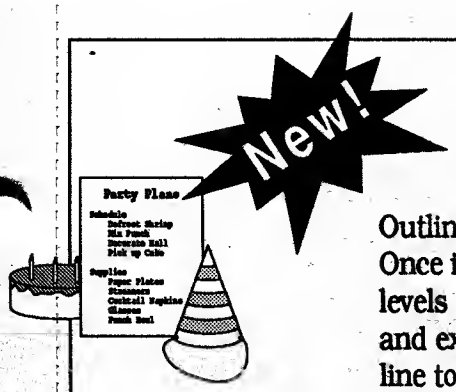

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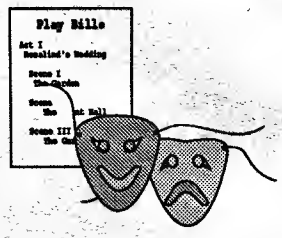

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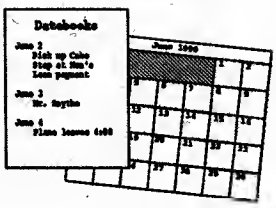

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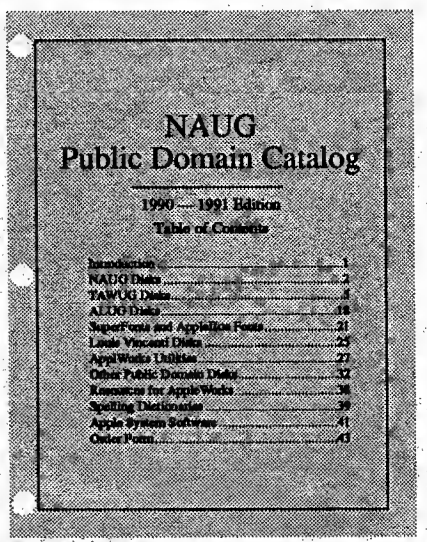

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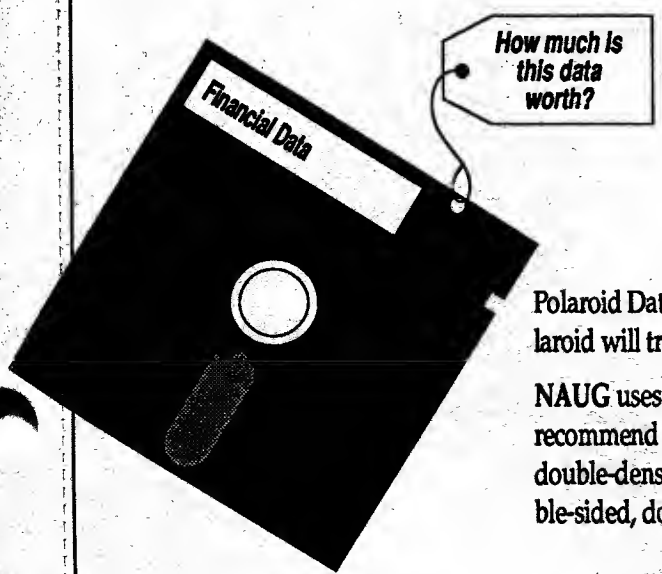

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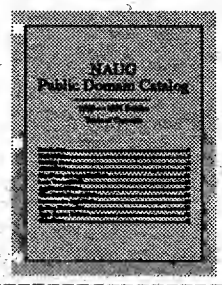

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Questions and Answers about AppleWorks

by Randy Brandt

This is the fourth in a series of articles that describe the internal workings of AppleWorks 3.0. These articles will help intermediate and advanced AppleWorks users understand why the program behaves the way it does. Mr. Brandt is one of the authors of AppleWorks 3.0.

I am often asked questions about how AppleWorks and TimeOut UltraMacros perform various operations. This month I will answer some of the most frequently asked questions.

What Does AppleWorks Do While It Waits for a Keystroke?

Unless you installed UltraMacros, AppleWorks' only task while waiting for a keystroke is to blink the cursor.

AppleWorks generates its cursor by alternating the screen display between two characters. AppleWorks displays an inserting cursor by alternating the current character on the screen with the underline character. The program generates the overwriting cursor by alternating the screen character with the inverse of that character. Examine the cursor in action and you will see how these techniques produce the cursor display.

AppleWorks uses two values, which we will call "BlinkLong" and "BlinkShort", to control the cursor blink rate. In insert mode, BlinkLong determines how long the screen character stays visible and BlinkShort determines how long the underscore stays on the screen. Their functions get reversed in overstrike mode. That is, BlinkShort determines how long the screen character is visible, while BlinkLong sets the time for the inverse character. The Macro Options feature in UltraMacros lets you change the cursor blink rate by modifying the numbers used for BlinkLong and BlinkShort.

How Does AppleWorks Keep Up with Fast Typists?

Since there are times when AppleWorks does hundreds of operations every second, it is possible for the computer to "miss" a keystroke by not "paying attention" during the moment the user presses a key. Deciding how to capture all of a user's input is an important part in the design of a word processing program.

The most likely time for a word processor to miss keystrokes is while the program is reformatting a large paragraph. This is particularly troublesome when you insert text near the beginning of that paragraph. To eliminate this problem, AppleWorks sets aside a few bytes in memory to serve as a type-ahead buffer. The program uses that memory to store keystrokes that AppleWorks is not ready to process.

Every time AppleWorks completes a screen operation, it checks if you pressed a key. If you did, the program stores that keystroke in the buffer. When the program's main ReadKeyboard routine is ready to process a keystroke, it first checks the type-ahead buffer. Thus, AppleWorks checks the keyboard frequently, has a place to store every keystroke, and can keep up with the fastest typist.

How Does the UltraMacros Clock Work?

The UltraMacros on-screen clock counts the number of times the cursor blinks. Every five blinks, the clock calls the AppleWorks routine which builds a string of time characters. Then UltraMacros prints those characters on the screen. If the

cursor does not blink, (e.g., when the UltraMacros screen preserver is active), the clock display is not updated and it falls behind the current time. However, UltraMacros updates the clock within five cursor blinks when the cursor reappears on the screen.

Note that UltraMacros only uses its count of cursor blinks to tell it *when* to update the clock; it does not use the cursor blinks to keep track of the time. (The program gets the current time by calling the AppleWorks ReadTime routine which gets the time from ProDOS and converts the time into a string of text characters.) Computers equipped with accelerators that speed up the cursor blink rate still display the correct time. The faster the cursor blink rate, the more often UltraMacros updates the clock. However, the clock remains accurate with any blink rate.

How Does UltraMacros Capture Macros?

UltraMacros preserves about 4K of memory to store macros. When you press Open-Apple-X to record a macro, UltraMacros fills the free space of the macro table with a special character. Then it tells AppleWorks to get all its keystrokes from UltraMacros.

When UltraMacros goes to fetch the next macro character, it encounters the "record macro" code which tells it to wait for you to press a key. UltraMacros then enters your keystroke into the macro table and passes the keystroke to AppleWorks. UltraMacros updates the macro pointer to indicate that it stored one keystroke and then repeats the process until UltraMacros runs out of room in the macro table or until you press Open-Apple-X to stop recording the macro.

How Does UltraMacros Run a Macro?

As soon as you launch a macro, UltraMacros sets a flag to indicate that macros are active. The program then passes control back to AppleWorks. When AppleWorks wants another keystroke, it knows that macros are active and asks UltraMacros for the key instead of checking the keyboard.

UltraMacros looks in the macro table for the next entry. If it is text or an AppleWorks command, UltraMacros passes the character or command to AppleWorks. If it is an UltraMacros function, UltraMacros executes the function and then looks at the next entry in the macro table. This process continues until UltraMacros reaches the end of the macro.

How Does UltraMacros Handles Input from the Mouse?

During every keystroke cycle, UltraMacros checks for keyboard activity and for a mouse movement. UltraMacros checks first for a press of the mouse button. If you press the button with a menu choice highlighted, UltraMacros passes a Return to AppleWorks. If no menu choice is present, UltraMacros checks whether your last press of an Arrow Key was an Up-Arrow or a Down-Arrow. The program then passes that keystroke on to AppleWorks.

If you did not press the mouse button, UltraMacros checks for mouse movement. If the mouse was moved far enough, UltraMacros passes the appropriate Arrow Key to AppleWorks. If the mouse was not moved enough to count as a keystroke, UltraMacros loops back and checks for a keystroke.

How Does UltraMacros Handle Input from the Numeric Keypad?

A special memory location in the Apple IIGS indicates if a keystroke came from the numeric keypad or from a function key on the extended keyboard. UltraMacros checks for this flag. That makes it possible to use these keys to invoke macros without having to press the Option Key. (Although UltraMacros lets the user treat keypad entries as normal text, the function keys always invoke macros.)

How Does UltraMacros Manage the Screen Preserver?

UltraMacros has an optional screen preserver that protects your monitor if your computer is inactive for a predetermined length of time. UltraMacros measures that time by counting how many times it checks the keyboard for a keystroke. We will call each test of the keyboard one "input cycle".

During each input cycle, UltraMacros checks if it is time to blank the screen. The program blanks the screen when the specified number of cycles occur without a keystroke.

Inside AppleWorks...

On the IIGS, UltraMacros blanks the screen by changing the text, background, and border colors to black. On a IIe or IIc, UltraMacros saves every other screen character in desktop memory and then replaces those characters with spaces. Finally, UltraMacros switches the screen to forty column mode, resulting in a blank screen.

Note that accelerators (e.g., the Zip Chip) speed up AppleWorks. Since the screen preserver counts input cycles, it blanks the screen sooner than you might desire. The Macro Options lets you set the number of cycles that occur before the preserver blanks the screen. You enter a number between 1 and 255 into the screen preserver delay and UltraMacros multiplies that number by 65,536 to determine how many input cycles should occur before it blanks the screen. For example, if the delay is left at its default value of 20, UltraMacros checks the keyboard 1,310,720 times before it blanks the screen.

Conclusion

This month I answered some of the frequently asked questions about the internal operation of AppleWorks and UltraMacros.

My role in this series of articles is to help you understand what happens "Inside AppleWorks", and your questions can guide me in that writing. Please send your questions and suggestions to: Randy Brandt, Inside AppleWorks, **NAUG**, Box 87453, Canton, Michigan 48187.

[Randy Brandt, an author of AppleWorks 3.0, is the owner of JEM Software, publishers of AppleWorks enhancements such as PathFinder and Outline 3.0. He is also the developer of TimeOut FileMaster and numerous other TimeOut modules.]

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General Interest

You Know You're in Trouble...

by Paul Raymer

You know you're in trouble when...

...you enter the formula 2+2 in a spreadsheet and AppleWorks responds "5".

...AppleWorks' spell checker doesn't highlight the word "npmrjrsf" that your 2-year old typed into your annual report.

...AppleWorks displays "About a zillion" when you enter the formula for the number of car payments due.

...TimeOut TeleComm just dialed a long distance number, at day rates, and a recording tells you that all lines are busy and that you will be connected to the next available representative.

...your computer beeps, displays a bomb on the screen, and you are using an Apple IIc.

...your new public domain template was written by a teacher in North Dakota who has only eight kids in her classroom and a total of 14 children in the whole building.

...your new CD-ROM disk, a collection of geographic and historical landmarks in the United States, starts with Aretha Franklin singing the table of contents.

...Sensible Grammar prints "This is absolutely awful!" after reading your report.

...your new power backup unit requires 74 "D" cells.

...your mail order modem arrives with a sticker saying "2350 Baud".

...the mouse has been leaving little things on the mouse pad when your IIGS is unattended for long periods of time.

...your assistant gives you an address data base with 2,800 records with first name and last name entered in a single category.

[Adapted from an article that originally appeared in Desert Dialog, the newsletter of the Southern Nevada Apple Family Users Group.]

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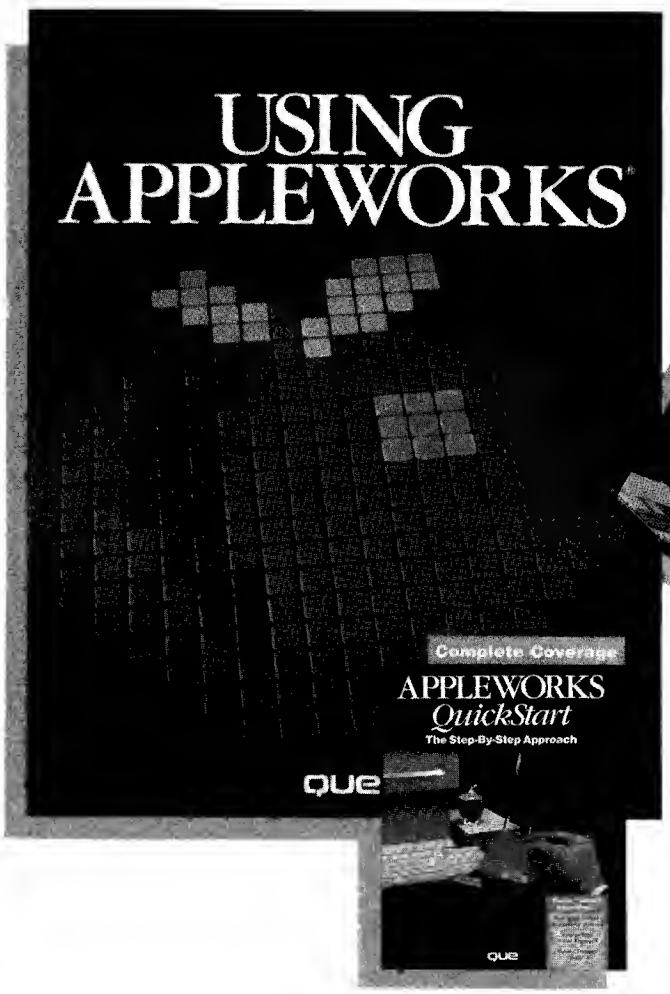

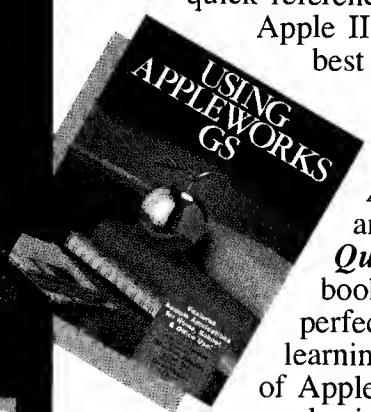

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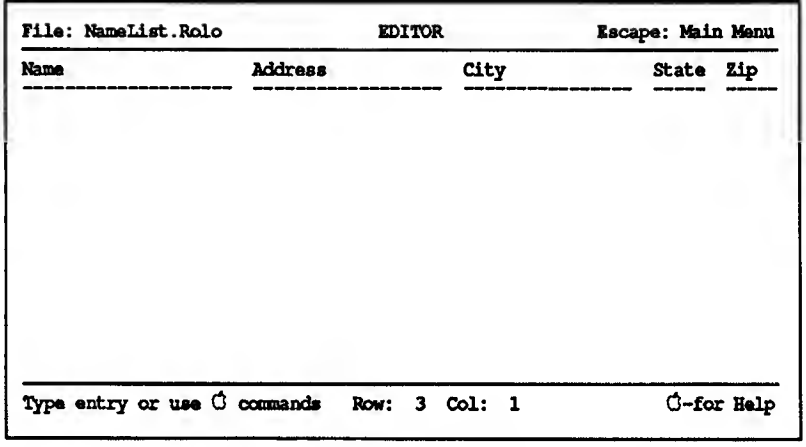
How to Generate Your First Report — Part 2

by Dan Verkade

This is the third in a series of articles that describe how to use TimeOut ReportWriter. The author assumes that you read the previous articles in this series.

Last month you started to prepare a ReportWriter Layout File that will generate a simple name and address list. In that exercise you learned how to navigate around the ReportWriter Editor and how to prepare labels for the report. This month you will learn how to tell ReportWriter where to print your data, how to specify the categories that will appear in the report, and how to print the output.

Figure 1: ReportWriter Editor Screen



Start this month's lesson by loading the "Rolodex" file from the ReportWriter or AppleWorks Sample Files disk onto the desktop. (Any file that you use in a report must be on the AppleWorks desktop so ReportWriter can access the file.) Then issue an Apple-Escape to display the TimeOut Menu, invoke ReportWriter, and indicate that you want to edit the file "NameList.Rolo". NameList.Rolo is the ReportWriter Layout File you started to define last month. Your screen will display the ReportWriter Editor with the headings you entered for the report (see *Figure 1*).

Placing the Fields

Now you will tell ReportWriter what data you want to print, where that data should appear, and how to find the data in your collection of AppleWorks files.

Follow these steps:

1. Put the cursor in the space below the first dash under the heading "Name" and enter a Control-F (for "Field"). An asterisk will appear in that location and the cursor will move to the next position on the screen. Press Control-F 19 more times to place asterisks underneath all the dashes under the "Name" heading. Each asterisk is a "field marker". An unbroken string of field markers defines a "field" where ReportWriter will place AppleWorks data.

   These field markers look no different than the asterisks that you normally type from the keyboard. However, if you put the cursor on any field marker, the word "undefined" will appear in the lower left-hand corner of the screen. That message indicates that you want to print a "field" in this location, but that you have not defined the contents of that field.

   The number of field markers in a contiguous string defines the maximum length of the field. In this example, you will allow up to 20 spaces for each person's name. Long names will be truncated after the twentieth character.

How to Change the Field Marker Character

You can change the field marker character from an asterisk to any character you choose, including MouseText characters. This is convenient if you ever want to print asterisks in a report because you can get confused between the printed asterisks and the field markers. To change the field marker, invoke the TimeOut Utilities, indicate that you want to configure ReportWriter, select option #3, "Character used as field marker", and enter the decimal value of the character you want to use in place of the asterisk. Some useful MouseText characters are an Open Apple (ASCII value of 129), a check-mark (132), or a diamond (155).

You can move fields around the screen just as you can move text. For example, you can insert spaces or text in front of the field. Try that now by putting the insert cursor in front of the first field marker and typing "Hello". Then use the Delete Key to erase those characters. The field markers will move to accommodate the text you entered. However, you cannot type over a field marker. Try that and ReportWriter will just beep.

2. Now you will learn how to move fields between positions. You will create a two-character field for "State" in the wrong location and use the Apple-M command to move that field to the correct position in the report.

   Put the cursor underneath the first dash under the heading "Address" and use the Control-F command to create two field markers. (Although "State" is a five character label, you will only use two positions because you will print two-character state codes.)

   Move the cursor to the first of the two field markers and enter an Apple-M. Then put the cursor underneath the first dash in the heading "State" and press the Return Key. The field will move to the new position.

   There are two rules for moving fields: First, the cursor must be on the first field marker in the field; otherwise ReportWriter will beep and will not perform the move. Second, you cannot move a field to a position where it will overlap any part of another field. Again, ReportWriter will just beep.

3. With the insert cursor on the screen, put the cursor under the first dash in the heading "Address" and define a field that is 18 characters long. (You switch between the insert and overstrike cursor with the Apple-E command.) Note that the field under the heading "State" moved 18 characters to the right. Put the cursor on the first of those two field markers and use the Delete Key to move them back to their correct location.

4. Issue an Apple-E to toggle to the overstrike cursor, then use the Control-F command to place 16 field markers under the heading "City" and five field markers under the heading "Zip".

Remember this important concept about fields: You can put a field anywhere in a report. In this lesson you put them underneath their respective headings to make the output look attractive and readable. However, you can put field markers anywhere you choose on the screen. The report may not look as nice, but it will still print the way you specify.

Defining the Fields

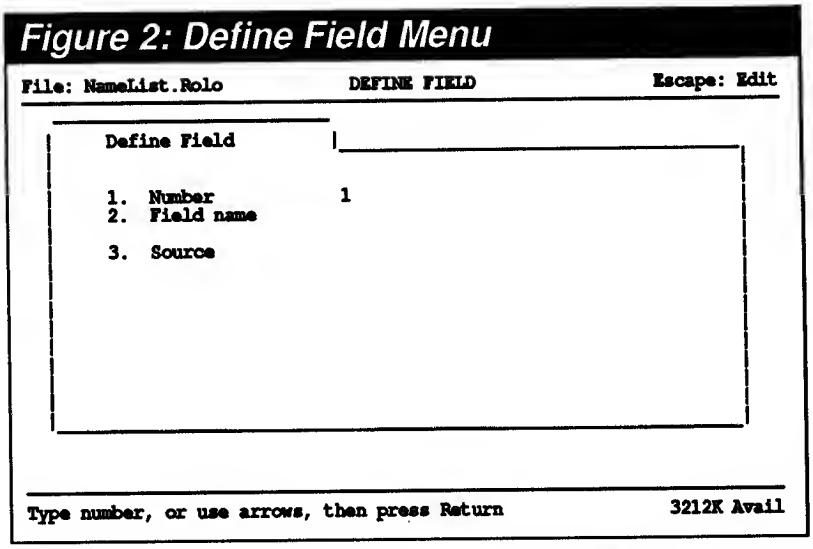
ReportWriter now knows where it will place data, but does not yet know what data to include in the report. You must now "define" the five fields you just created. Field definition is a three-step process:

1. Give the field a ReportWriter "field name".
2. Tell ReportWriter which file contains the field.
3. Tell ReportWriter which category in that file contains the data you want to use in the report.

Proceed as follows:

1. Press Apple-Tab several times and watch the cursor jump backwards from field to field. Tab causes the cursor to move forward to each successive field; Apple-Tab moves the cursor backwards one field. Put the cursor on the field under the heading "Name".
2. Press Apple-N to define (or "name") this field and ReportWriter will display the Define Field Menu (see *Figure 2*). Select option #2, "Field

Figure 2: Define Field Menu



Name", enter an Apple-Y to "yank" out the default name, enter "FullName", and press the Return Key.

Field names can be up to 16 characters long, must begin with a letter, can contain only letters and numbers (field names cannot include spaces, periods, or other punctuation marks), and must be unique (that is, you cannot have duplicate field names). ReportWriter will warn you if you try to enter a duplicate field name. Field names are not case sensitive, so ReportWriter does not differentiate between "FullName", "FULLNAME", and "FuLlnAmE".

ReportWriter always references a field by its name, so you should choose descriptive names that make it easy to remember the function of each field. This will become important later when you prepare complex reports that include lookups and calculations.

3. Now you must tell ReportWriter where to find the data for the FullName field. Select "Source" and press the Return Key.

4. Any one of the following five locations can be the source of your data:

Master File: Every report must contain one Master File, which will serve as the basis for the output. The records in the Master File determine the flow of the report. Unless you use ReportWriter's record selection rules, ReportWriter will process every record in the Master File. Each ReportWriter report can include only one Master File.

Lookup by key: ReportWriter can include information that it locates in other files. As I explained in the first article in this series, you access this lookup information by matching categories, or "keys". We will use this feature extensively in the later articles in this series.

Lookup by record: This is another way to obtain information from a second file. Rather than matching keys, this approach matches record numbers. "Lookup by record" is not as powerful as "lookup by keys".

Calculation: You can use calculations to manipulate existing data and to create new values for a report. We will generate calculated fields in later articles in this series.

Keyboard: This option lets you enter information from the keyboard directly into a report.

Select "Master File" as the source of the data for the FullName field.

5. ReportWriter will return to the Define Field Menu, but will display eight options instead of the original three. You must now tell the program the name of the Master File you will use for the report. Select choice #4, "File", and press the Return Key. ReportWriter will display all the data base files on the desktop. Select "Rolodex" and press the Return Key.

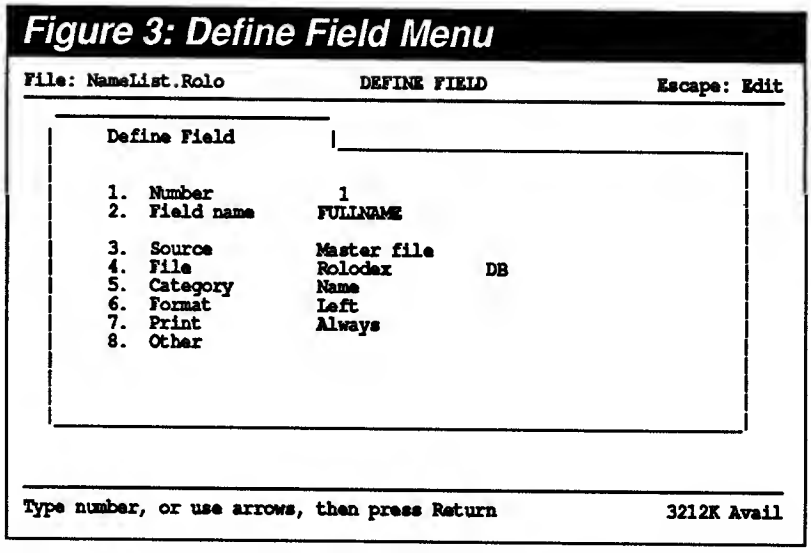
6. Next, you must identify the category in the Rolodex file that contains the data you want to use in the FullName field. Select choice #5, "Category", and press the Return Key. ReportWriter will display a list of all the categories in the Rolodex file; select the category "Name".

You have now told ReportWriter that whenever you reference the field "FullName", you want the program to use the data stored under "Name" in the Rolodex file.

The remaining Define Field Menu options let you control the format, data type, printing frequency, and whether to post the data into another file. We will use these options when we generate more complex reports later in this series of articles.

The Define Field Menu should now look like the example in *Figure 3*.

Figure 3: Define Field Menu



7. Press the Escape Key to return to the ReportWriter Editor. Note that the bottom of the screen now displays the field name, number, length, and the source of the data for the field (see *Figure 4*).

8. Now you will define the remaining fields for the report. Press the Tab Key to jump to the next field, issue an Apple-N, and define the field. Use the names "Street", "City", "State", and "Zip" as the field names. When you select Master File as the source, ReportWriter will insert "Rolodex" into each Define Field Menu. Since every report can have only one Master File, and since you already specified that Rolodex is the Master File for this report, ReportWriter knows the name of the Master File for the field. Select the appropriate data base category name for each of these four ReportWriter fields.

9. Before leaving the Editor, enter an Apple-Z and ReportWriter will replace the field markers with the names of the fields. Press another Apple-Z and ReportWriter will once again display the field markers.

Defining Report Sections

One step remains in the report definition process. Although ReportWriter now knows to print some text, five fields of data, and where to get that data, the program does not know what will constitute the heading and what will be the body of the report. We must now define the different sections of the output.

Proceed as follows:

1. While in the ReportWriter Editor, put the cursor anywhere on the line containing all the dashes. The position indicator should display "Row: 2". We want everything above and including this line to be a header that prints at the top of each page.

2. Press an Apple-O (that is the letter "O", not a zero) to display the Options Menu. Select option #2, "Section positions".

3. The Section Positions Menu lets you define seven possible sections. All these sections presently have a line number of zero to indicate that you have not yet defined that section.

   You want the line of dashes to be the end of the "header", so select #2, "Header" and press the Return Key *twice*. The screen will now display the number "2" next to "Header" to indicate that the first two lines on the Editor Screen comprise the header. (Pressing Return the second time says that you want the line number the cursor is on to define the end of the selected section.)

4. Next, you will define the "body" of the report. The report body repeats one time for every record in the Master File. The line you want to repeat in this report is the line that contains the field markers. Here is a second way you can define a report section:

   With the Section Positions Menu on the screen, select option #3, "Report body", press the Return Key and type the number "3". That indicates that the report body consists of the third line and only the third line on the Editor Screen. Then press the Return Key. This defines a one-line body section for the report. Had you selected line #4 as the end of the body section, lines 3 and 4 would repeat for each record in the Master File. Since line 4 is blank, the blank line would repeat and you have double spacing in the report. Similarly, you would get triple spacing if you selected line 5 as the end of the body section.

5. Press the Escape Key twice to return to the ReportWriter Editor. The screen should look like the example in *Figure 4*. Note the highlighted "H" and "B" in the right-hand column. These letters indicate the end of each section in the report. If it is difficult to visualize the end of each section, enter a Control-Z and ReportWriter will signify the end of each section by drawing dashed lines across the screen. Enter another Control-Z and ReportWriter will delete the dashed lines.

Figure 4: Editor with Section Headings

```
File: NameList.Rolo                EDITOR                Escape: Main Menu
Name                  Address              City                State  Zip
--------------------  ------------------   ----------------    -----  -----  H
********************  ******************   ****************    **     *****  B

Name: FULLNAME  Number:  1  Length: 20  Type: Master----------------------
Type entry or use ↺ commands        Row:  3     Col: 1        ↺-? for Help
```

Note that each report can include up to seven sections as follows:

Title: Appears only once at the beginning of the report.

Header: Appears at the top of each page.

Body: Prints once for each selected record in the Master File.

Subtotal: Prints intermediate or group subtotals.

Footer: Prints at the bottom of every page.

Closing: Prints once at the end of the report.

Work Area: Contains intermediate calculations, imported categories, or lookups. This area does not print in the report.

I will describe the remaining five sections more fully in later articles in this series.

Generating the Report

You are now ready to generate the report. The procedure that you follow depends on whether you use AppleWorks 2.x or AppleWorks 3.0. (For technical reasons having to do with the availability of memory, it was not feasible to let AppleWorks 2.x print reports directly on the printer or screen.)

Figure 5: Printout of Address Labels

Name	Address	City	State	Zip
Joe Espana	987 Curtz Ave	Sun City	AZ	85372
Stan Smithers	99 Alma Ave	Sunville	CA	91353
Joe Christensen	995 Albion Way	Sarano	AZ	85715
Chris Stanley	446 Salinas Dr	Solano	AK	99671
Deborah Harrod	8765 Sand Hill Rd	Pageville	MT	59802
Sue Withers	1256 Blue Sky Dr	Solano	AK	99671
James Bliss	2453 Varidian Dr	Pageville	MT	59802
Michael Chang	3567 Saratoga Ave	Sarano	AZ	85715
Jim Wallace	2367 Martinez Way	Pageville	MT	59802
Elizabeth Hardy	1256 Red Rose Pl	Sun City	AZ	85372
Joseph Berg	1276 Mendocino Dr	Pageville	MT	59802
Chelsey Brown	1256 Sobrato Blvd #	Sunville	CA	91353
Carol Langley	22 Santa Marta Way	Sunville	CA	91353
Janet Strauss	225 Oroda #453	Solano	AK	99671
Marin Jamison	1278 Moraga Ave	Moraga Hills	AK	99701
Marty Benson	1276 Skyview	Moraga Hills	AK	99701

AppleWorks 3.0:

1. With the ReportWriter Editor on the screen, enter an Apple-G to indicate that you want to generate a report.
2. ReportWriter will ask if you want to print on one of your AppleWorks printers, to the screen, or to a text (ASCII) file. Select "Screen" and the report will appear on the screen, one screen at a time. You can press the Space Bar or Return Key to display the next screen or press the Escape Key to cancel further screen printing.
3. Press Apple-G again, select one of your AppleWorks printers and you should get a hard copy of this report. Your output should look like the printout that appears in *Figure 5*.

ReportWriter Editor Commands

This article introduced the following ReportWriter Editor commands:

Apple-G: Generate a report. Use this command to print a report after you finish the definition process.

Apple-M: Move a field from one location to another in the Editor.

Apple-N: Define ("name") a category. Apple-N only works when the cursor is on the first field marker in a field.

Apple-O: Display Options Menu to set printer options, define section positions, and enter titles and closing text.

Apple-Z: Toggles the display between the field markers and the name you assigned to each field.

Control-F: Insert a field marker at this location.

Control-Z: Toggles the display so it either shows or hides dashed lines between each section marker.

Tab: Jump forward to next category.

Apple-Tab: Jump back to previous category.

Printing to a text file is identical to the procedure used to generate a report with AppleWorks 2.x; those instructions follow.

AppleWorks 2.x:

1. With the ReportWriter Editor on the screen, enter an Apple-G to indicate that you want to generate a report. ReportWriter will suggest a pathname for the report. You can change the default if you want, then press the Return Key.
2. With the Generate Report Menu on the screen, select option #2, "Generate Report". ReportWriter will "print" a text file containing the report onto your disk.
3. If you want to view the report, select "Screen" and ReportWriter will display the report on the screen. You can scroll backwards, forwards, and horizontally through this report and can display up to 4096 lines in each report.
4. You can print the text file that contains the report by entering another Apple-G and selecting one of your printers after the report is generated and stored as a disk file.

Your report should look like the example that appears in *Figure 5*.

Conclusion

You have now designed and generated your first ReportWriter report. Next month you will start to use the relational and computational power of ReportWriter to generate more complex reports that you cannot prepare with unenhanced copies of AppleWorks.

[Dan Verkade is the developer of TimeOut ReportWriter, DoubleData, and other popular AppleWorks enhancements.]

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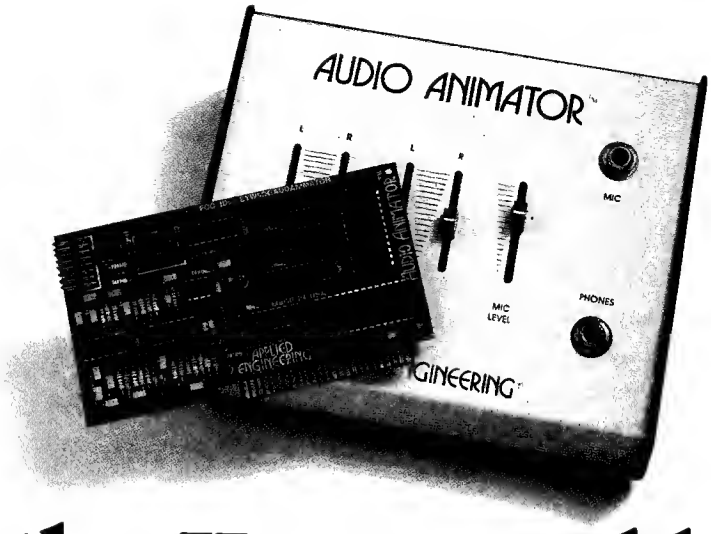

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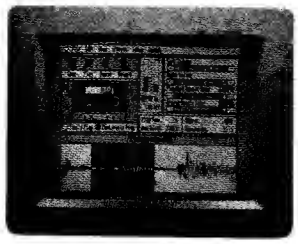

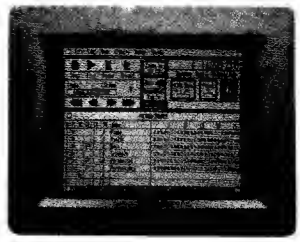

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Special Offers for NAUG Members

BBS Users Guide

NAUG recently released a new 16-page Users Guide for its free bulletin board service, the Electronic Forum. The guide describes all the commands and features available on the board. For a free copy, send a self-addressed, stamped #10 envelope to: BBS Users Guide, NAUG, Box 87453, Canton, Michigan 48187.

Congratulations to Dale Aston of Marietta, Georgia, the 40,000th caller to the Electronic Forum. Mr. Aston will receive a one-year extension to his NAUG membership.

NAUG Discount on Outline 3.0

NAUG members can now get special prices on Randy Brandt's Outline 3.0, an outline program that integrates itself into AppleWorks. Outline 3.0 adds outlining capabilities to the AppleWorks 3.0 word processor. Once installed, Outline lets you enter topics and up to five levels of sub-topics in outline form. You can move, copy, sort, and expand the ideas in each topic and then remove the outline to complete your document. Outline 3.0 also makes it easy to plan events, maintain a personal schedule, and keep lists. A review of Outline 3.0 will appear in a future issue of the ***AppleWorks Forum***. Outline 3.0 lists for $44.95 plus $3.50 s/h, however members can now get the program directly from NAUG for $29.95 plus $2.50 s/h. Foreign orders by credit card only; postage additional.

Polaroid DataRescue Diskettes

Most brands of floppy disks look the same, so it is easy to believe that floppy disks differ only in price. However, different brands of disks have different "clip rates", resolution, and other electronic and physical characteristics that affect the reliability of the disk. Although inexpensive disks are usually reliable, users should consider using high quality disks to store valuable data and to backup hard disks.

NAUG uses DataRescue disks produced by Polaroid Corporation to store its membership data base, financial information, template masters, and other important data. These disks come with a unique guarantee. Polaroid not only replaces any defective disks, but the company's DataRescue service also tries to recover the data on the damaged disk. This includes disks that are physically damaged by folding, spilled coffee, and the like. We think of it as an insurance policy for our data.

Polaroid DataRescue disks are not widely available and are difficult to find in the non-formatted version required for Apple II systems. When our supplier discontinued this product, we purchased a large quantity of disks from Polaroid for ourselves and for members.

Members can now buy DataRescue disks directly from NAUG. Prices are as follows:

5.25-inch, double-sided, double density: $10.00 per box of 10 disks (list: $17.50).

3.5-inch, double-sided, double density: $14.50 per box of 10 disks (list: $28.50).

Add $3 for the first box of disks and $2 for each additional box (maximum $8) for shipping and handling. Foreign orders by credit card only; foreign shipping additional. Specify air mail or surface delivery. (NAUG recommends air mail service and cannot be responsible for non-delivery of surface shipments to foreign addresses.) Purchase orders accepted, but payment must accompany your order.

Beaumont Software

Soup Up Classic! is a collection of more than 275 useful macros that work with AppleWorks. (A description of these macros appears on page 25 of last month's issue of the ***AppleWorks Forum***.)

Until December 1, NAUG members can get Soup Up Classic! directly from the developer for $16.95 plus $3 s/h. (List price is $24.95. Texas residents must add 8.25% tax.) Beaumont Software will refund your money if you are not completely satisfied.

Requires AppleWorks 2.0 or later enhanced with TimeOut UltraMacros. Specify 5.25-inch or 3.5-inch format and AppleWorks 2.x or 3.x compatible

versions of the macros. *[Beaumont Software, 5520 Hooks Avenue, Beaumont, Texas; (409) 892-4120.]*

JEM Software

FlexiCal is an AppleWorks enhancement that produces daily, weekly, and monthly appointment calendars that help you organize your schedule. (See the June 1990 issue of the ***AppleWorks Forum*** for a review of FlexiCal.) Until November 1, **NAUG** members can get FlexiCal for $22.50 (a 25% discount from the regular $30 price) directly from JEM.

Until November 1, **NAUG** members can also get SpellCopy for $10.50 if purchased with FlexiCal. SpellCopy is an AppleWorks 3.0 enhancement that automatically copies any files you specify, including the AppleWorks spelling dictionaries, onto a RAM disk and modifies AppleWorks so it looks on the RAM disk for its dictionaries. All prices include shipping and handling. Order from JEM Software, Box 1500Q, Arvada, Colorado 80001. Include your payment and **NAUG** membership number.

Continuing Special Offers

Alpha Check: **NAUG** members get special discount prices on Alpha Check, a home and small business check writing and tax accounting program that works within AppleWorks. (See the October 1989 issue of the ***AppleWorks Forum*** for a review of Alpha Check.) **NAUG** members can purchase Alpha Check for $29.95 plus $3.50 s/h (list price: $49.95) and the Alpha Check Business Pack for $10 plus $2.50 s/h (list price: $19). Combined Alpha Check and Business Pack: $39.95 plus $3.50 s/h (list price: $65). ActaSoft, 19700 Wells Drive, Woodland Hills, California 91364; (818) 996-6731.

AppleWorks Command Map: You:nique Bytes produces a comprehensive laminated map of the AppleWorks commands and menus. (See page 19 of the April 1990 issue for a more complete description of this product.) **NAUG** members can purchase the AppleWorks Command Map for $6.95 ($4.95 each for ten or more). You:nique Bytes, 2802 Nelson Road, Marshalltown, Iowa 50158.

CompuServe: **NAUG** members can get a free CompuServe account and a $15 usage credit. CompuServe; (800) 848-8199, representative #92.

Disk envelopes: Data Trackers are 5.25-inch disk envelopes that provide a place for you to write information about the files on the disk. **NAUG** members can purchase Data Trackers for $2.50 per pack of ten from Chirp's Chips, 6S235 Steeple Run, Suite 12, Naperville, Illinois 60540; (708) 961-2791.

Font Printouts: **NAUG** members with TimeOut SuperFonts or AppleWorks GS can get sample printouts of **NAUG**'s fonts that work with SuperFonts and AppleWorks GS. Each page includes samples of output from one disk of fonts. 75 cents per disk of fonts (plus a self-addressed, stamped envelope) or $8 for the complete 22-page collection. John Sambataro, 3201 North 74th Avenue, Hollywood, Florida 33024.

Beagle Buddies

NAUG's Beagle Buddies continue to update members' TimeOut disks. The cost is $2.50 for the first 5.25-inch disk and $1 for each additional 5.25-inch disk, or $3 for the first 3.5-inch disk and $2 for each additional 3.5-inch disk. To get the latest version of a TimeOut disk, send your **NAUG** membership number, your original TimeOut disk(s), and payment to any one of the Buddies listed below. All payments must be in U.S. funds; foreign postage is additional. Make your check payable to the Beagle Buddy, not to **NAUG**. The Beagle Buddies do not accept credit cards, promissory notes, purchase orders, or bartered services.

The Beagle Buddies are:

Bruce Shanker, 1279 Boyd Road, Warminster, Pennsylvania 18974-2260.

Oliver Roosevelt, Box 303, Fairforest, South Carolina 29336.

Joe Connelly, 32148 Camborne Lane, Livonia, Michigan 49154.

Pete Ross, 35026 Currier, Wayne, Michigan 48184-2348.

Bruce Shanker can also update disks from JEM Software to the latest version. Send your original JEM disks, the copying/shipping fee described above, and an additional $1 for each JEM disk you want to update; the dollar is a royalty payment that goes to the software developer.

New Disks in the NAUG Library

Apple Technical Notes

The NAUG Public Domain Library now includes a disk version of the complete Apple II Technical and File Type Notes from Apple Computer. These documents, which are important to Apple II programmers and developers, are text files you can import into AppleWorks and AppleWorks GS. The three 3.5-inch disk set, which is available from NAUG for $16 (plus $2 s/h), contains more than 750 pages of valuable technical information. The printed form of this documentation is also available from NAUG for $43 plus $5 s/h.

BusinessWorks Demonstration Disk

BusinessWorks is a complete double-entry bookkeeping system that meets the established standards for business accounting. The program, which includes general ledger, accounts payable, accounts receivable, inventory control, payroll, and label printing modules, can generate more than 75 different reports and outputs files readable by AppleWorks. BusinessWorks is menu-driven and easy to use, but assumes an understanding of basic accounting practices.

The NAUG library now includes a demonstration version of BusinessWorks that describes the features of the program and lets you enter and manipulate sample data in the different modules. The BusinessWorks Demonstration Disk is self-booting and is available only in 3.5-inch disk format (Manzanita no longer produces a 5.25-inch disk version of BusinessWorks.) *[Manzanita Software Systems, 2130 Professional Drive, Roseville, CA; In CA: (800) 447-5700; Outside CA: (800) 531-3552.]*

Change-A-File/Resurrection

NAUG's new Change-A-File/Resurrection Disk includes Change-A-File (version 3.01) and Resurrection (version 1.7), two popular programs produced by NAUG member Dr. Harold Portnoy.

Change-A-File converts AppleWorks 3.0 files to run under AppleWorks 2.1 or earlier and is an important utility for anyone who uses both AppleWorks 3.0 and earlier versions of the program. Change-A-File can also recover most damaged AppleWorks word processor and data base files from any disk with an intact directory. The file recovery process is simple and requires little technical expertise.

Resurrection, which recovers AppleWorks files from disks with damaged directories, also requires little technical expertise. The disk includes complete documentation for both programs.

The latest versions of Change-A-File and Resurrection are shareware. The author requests $8 and a copy of the address label from the ***AppleWorks Forum***. You will receive printed information and a password that gives you access to all the functions available in both programs on the disk. (Note: The normal shareware fee for Change-A-File and Resurrection is $10; we appreciate this discount for NAUG members.)

CheckWorks 1.2

NAUG member Dan Crutcher recently released version 1.2 of his powerful CheckWorks program, a set of templates and macros that lets you pay bills and maintain your tax records within AppleWorks. Version 1.2 makes it easier to print checks and to return to your standard default macros and desktop.

CheckWorks is now "fairware"; the author asks that you remit any payment you think is equitable after using the program.

How to Get Disks

Unless otherwise noted, all disks are available in both 5.25-inch ($4) and 3.5-inch ($6) format, plus $2 *per order* for shipping and handling. Order from NAUG, Box 87453, Canton, Michigan 48187. All NAUG disks are also available for downloading from NAUG's electronic bulletin board and from the NAUG areas on CompuServe, America Online, and GEnie. All the files except the Apple Technical Notes also appear in this month's issue of ***NAUG on Disk*** (single issue: $8; subscription: $7 per month).

My Favorite Macro

How to Produce a Menu with Your Special Printer Codes

by William Neef

AppleWorks 3.0 lets you define up to six special printer codes for every printer. You access these codes by issuing an "SC" command from the Options Menu and entering the code you want to invoke. However, remembering which numerical code generates each command can be troublesome. This month's macro, written by Keith Johnson of Sparks, Nevada, solves this problem by displaying your codes in a menu at the bottom of the screen. You can then choose the appropriate code from the menu. Of course you must modify the macro so the menu displays your own set of special codes. Menu numbers 1 and 2 in my version of Mr. Johnson's macro indicate "Slashed Zeros Begin" and "Slashed Zeros End", respectively. Choices 3 and 4 start and end the printing of half-height characters. Menu choice number 5 generates custom lines and choice 6 invokes Mousetext. (Both these commands are described in the article entitled "Special Printing Effects from Dot Matrix Printers" in the August, 1988 issue of ***AppleWorks Forum***.)

Note that the menu is limited to a single line on the screen. If you have trouble with your version of this macro, look first at the length of the menu line; you may need to abbreviate the descriptions of your special codes.

The line "x = x - 48" in this macro needs some explanation. Pressing the number "1" on the keyboard generates an ASCII value of 49. The number "2" generates a 50, and so forth. This line in the macro adjusts the value of x so it reflects the number on the key, not the ASCII value of the keystroke. After this adjustment, pressing the "1" key sets x equal to one.

[William Neef is a retired purchasing agent for Welding Metals, Inc. and is Treasurer of the Apple Jackson (Mi) Users Group. Keith Johnson, author of this macro, is Associate Director of the Fleishmann Planetarium at the University of Nevada, Reno.]

Figure 1: Macro that Generates a Menu of Special Printer Codes

```
start
<ba-Y>:<awp :                                  { Define the macro.                                    }
onerr stop :                                   { Stop the macro if the AppleWorks beep "sounds".      }
                                               { The AppleWorks beep is silenced during macro execution. }
msg ' Spec.Codes-> 1,2: SlashZero; 3,4: HalfHgt; 5:CustomLines; 6:MouseTxt ' :
                                               { Display the menu in inverse. Customize for your own use.}
x = key :                                      { Store the ASCII value of your keystroke in variable x. }
x = x - 48 :                                   { Store the numerical value of the key in variable x.   }
if x < 1 or x > 6                              { If the keystroke is outside the acceptable range...   }
then msg '' :                                  { ...then clear the menu...                             }
stop : endif :                                 { ...and stop the macro.                                }
oa-O>SC<rtn :                                  { If the response is between 1-6, go to the Option Menu...}
                                               { ...and issue an SC command.                           }
print x : rtn :                                { Types special code 1-6 into AppleWorks.               }
esc : msg ''>!                                 { Return to the document and clear the menu.            }
```

Get Help with AppleWorks Applications and Telecommunications

by Nanette Luoma

Each month, the ***AppleWorks Forum*** lists the member-volunteers who offer technical support for AppleWorks products. This month's list identifies the volunteers who can answer questions about AppleWorks applications and telecommunications. Next month's issue will contain a list of members who offer help with the AppleWorks modules.

Applications/Telecommunications

How to Use this List

Use this month's list to find help with AppleWorks applications and telecommunications. To the left of each volunteer's name are numbers indicating the enhancements that consultant supports. Volunteers are listed alphabetically by state.

1 = Educational Applications
2 = Business Applications
3 = Custom Printing
4 = Transfer Apple II to Macintosh
5 = Transfer Apple II to IBM
6 = NAUG's BBS
7 = CompuServe
8 = AppleLink - PE
9 = GEnie

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